CLAIMS

1. A thin film formation method comprising:

plural antenna elements, the first end of the first linear conductor and the first end of the second linear conductor of each said antenna elements being electrically connected to each other,

arranging a number of said antenna elements in a chamber so that the said first and the second linear conductors are placed alternately in plane with equal intervals, forming one or more array antenna(s),

connecting the second ends of each of the said first linear conductors to a high-frequency power source,

grounding the second ends of each of the said second linear conductors,

installing plural substrates on both sides of and in parallel to respective said array antenna(s) with a space between the array antenna(s) and the substrates comparable to the said intervals between the linear conductors; and

thin film is deposited on respective said substrates.

2. A thin film formation method comprising:

plural antenna elements, the first end of the first linear conductor and the first end of the second linear conductor of each said antenna elements being electrically connected to each other,

arranging a number of said antenna elements in a chamber so that the said first and the second linear conductors are placed alternately in plane with equal intervals, forming one or more array antenna(s),

connecting the second ends of each of the said first linear conductors to a high-frequency power source,

grounding the second ends of each of the said second linear conductors,

maintaining the pressure in the said chamber to be at 60Pa or less; and

thin film is deposited on respective said substrates.

3. The thin film formation method as set forth in claim 1, further comprising:

the pressure in the said chamber maintained to be at 60Pa or less.

4. The thin film formation method as set forth in claims 1 to 3, further comprising:

said substrates being reciprocated in the direction parallel to the said array plane and perpendicular to the said first and the second linear conductors.

5. A thin film formation apparatus comprising:

a chamber equipped with an inlet port to introduce source gas and an exhaust port for evacuation,

one or more array antenna(s) placed in the said chamber, each of the said array antenna(s) consists of plural antenna elements, each of the said antenna elements having a first and a second linear conductors, the first end of the said first linear conductor and the first end of the said second linear conductor of a said antenna elements being electrically connected to each other, the said first and the second linear conductors placed alternately in plane with equal intervals, the second ends of each of the said first linear conductor connected to a high-frequency power source and the second ends of each of the said second linear conductors being grounded, and

plural substrate holders provided so as to place plural substrates on both sides of and in parallel to respective said above array antenna(s) with a space between the said array antenna(s) and the said substrates comparable to the said intervals between the said linear conductors.

6. The thin film formation apparatus as set forth in claim 5, further comprising:

dielectric bodies covering the respective said first linear conductors.

7. A solar cell production method comprising:

plural antenna elements, the first end of the first linear conductor and the first end of the second linear conductor of each said antenna elements being electrically connected to each other,

arranging a number of said antenna elements in a chamber so that the said first and the second linear conductors are placed alternately in plane with equal intervals, forming one or more array antenna(s),

connecting the second ends of each of the said first linear conductors to a high-frequency power source,

grounding the second ends of each of the said second linear conductors,

installing plural substrates on both sides of and in parallel to respective said array antenna(s) with a space between the array antenna(s) and the substrates comparable to the said intervals between the linear conductors; and

thin film is deposited on respective said substrates.

8. A solar cell production method comprising:

plural antenna elements, the first end of the first linear conductor and the first

end of the second linear conductor of each said antenna elements being electrically connected to each other,

arranging a number of said antenna elements in a chamber so that the said first and the second linear conductors are placed alternately in plane with equal intervals, forming one or more array antenna(s),

connecting the second ends of each of the said first linear conductors to a high-frequency power source,

grounding the second ends of each of the said second linear conductors,

maintaining the pressure in the said chamber to be at 60Pa or less; and

thin film is deposited on respective said substrates.

9. The solar cell production method as set forth in claim 7, further comprising:

the pressure in the said chamber maintained to be at 60Pa or less.

10. The solar cell production method as set forth in claims 7 to 9, further comprising:

said substrates being reciprocated in the direction parallel to the said array plane and perpendicular to the said first and the second linear conductors.

11. A solar cell production apparatus comprising:

a chamber equipped with an inlet port to introduce source gas and an exhaust port for evacuation,

one or more array antenna(s) placed in the said chamber, each of the said array antenna(s) consists of plural antenna elements, each of the said antenna elements having a first and a second linear conductors, the first end of the said first linear conductor and the first end of the said second linear conductor of a said antenna elements being electrically connected to each other, the said first and the second linear conductors placed alternately in plane with equal intervals, the second ends of each of the said first linear conductor connected to a high-frequency power source and the second ends of each of the said second linear conductors being grounded, and

plural substrate holders provided so as to place plural substrates on both sides of and in parallel to respective said above array antenna(s) with a space between the said array antenna(s) and the said substrates comparable to the said intervals between the said linear conductors.

12. The solar cell production apparatus as set forth in claim 11, further comprising:

dielectric bodies covering the respective said first linear conductors.

13. The solar cell comprising:

thin films deposited on the surface of substrates, the said thin films formed by plural antenna elements, the first end of the first linear conductor and the first end of the second linear conductor of each said antenna elements being electrically connected to each other,

arranging a number of said antenna elements in a chamber so that the said first and the second linear conductors are placed alternately in plane with equal intervals, forming one or more array antenna(s),

connecting the second ends of each of the said first linear conductors to a high-frequency power source,

grounding the second ends of each of the said second linear conductors, and

maintaining the pressure in the said chamber to be at 60Pa or less.

14. The solar cell as set forth in claim 13, further provided by:

depositing the said thin films by maintaining the pressure in the said chamber to be at 60Pa or less.

15. The solar cell as set forth in claims 13 to 14, is further provided by said thin films deposited by:

said substrates being reciprocated in the direction parallel to the said array plane and perpendicular to the said first and the second linear conductors.